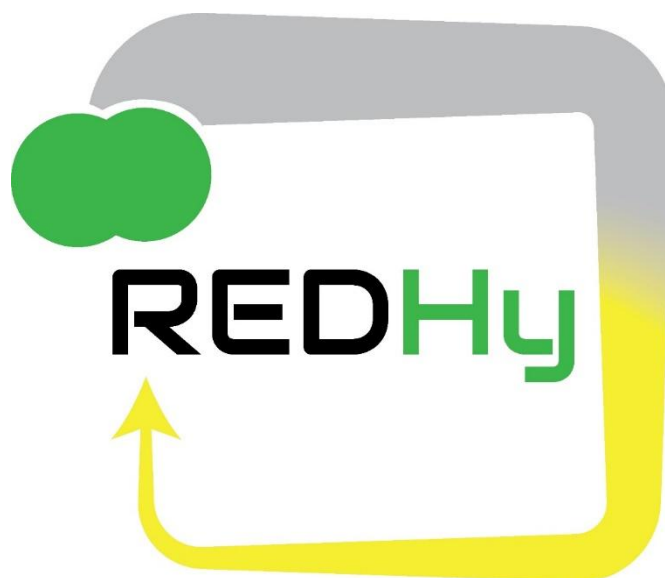


HORIZON EUROPE PROGRAMME
TOPIC HORIZON-CLEANH2-2023-01-01

GA No. 101137893

REDHY

**Redox-Mediated economic, critical raw material free,
low capex and highly efficient green hydrogen
production technology**



REDHY - Deliverable report

DELIVERABLE 3.2 – Fluorine and CRM free BPM

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Related WP	WP3	
Deliverable Title	Fluorine and CRM free BPM	
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2.0	25.05.26	Julien Fage (CENmat)	Data implementation
2.1	29.05.26	Julien Fage (CENmat)	Corrections according to internal reviews

Public Summary

The EU project REDHY is developing a new generation of electrolysis systems that move beyond today's conventional technologies. Instead of optimizing traditional setups, REDHY takes a disruptive approach based on bipolar membrane systems, which combine acidic and alkaline membranes into a single architecture. This design opens new possibilities for efficiency, cost reduction, and critical raw material minimization. The bipolar membrane used in the REDHY system is a core component of the technology and has been designed to be free of PFAS and critical raw materials (CRMs). This deliverable presents progress toward creating PFAS-free bipolar membranes, including developed PEM polymer (see deliverable D3.1). Several configurations of the BPM structure were investigated, from the method of preparation to the type of water dissociation catalyst and its loading within the membrane. The produced membranes were tested in electrolysis mode, to quantify their potential for water dissociation.

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Project partners:

#	Partner short name	Partner Full Name
1	DLR	DEUTSCHES ZENTRUM FUR LUFT – UND RAUMFARHT EV
2	CNRS	<u>CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIC</u>
3	UNR	<u>UNIRESEARCH BV</u>
4	UPV	<u>UNIVERSITAT POLITECNICA DE VALANCIA</u>
5	IDN	<u>INDUSTRIE DE NORA SPA-IDN</u>
6	CENMAT	<u>CUTTING-EDGE NANOMATERIALS CENMAT UG HAFTUNGSBESCHRANKT</u>
7	CNR	<u>CONSIGLIO NAZIONALE DELLE RICERCHE</u>

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